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AUTHOR Bouchard, John B.; Nelson, Kenneth G.
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ABSTRACT

This working paper presents guidelines for implementation of a school reorganization model designed to facilitate the individualization of instruction. The POISE model (Pupil Oriented and Individualized System of Education) is presented as it was developed for use by the Southwestern New York Association for the Improvement of Instruction and the Teacher Education Research Center of the State University at Fredonia in cooperation with participating schools which agreed to identify and undertake changes in school organization including reassignment of staff, pupils, resources, and facilities in accordance with the patterns of reorganization identified for facilitation of work with individual pupils. Each component of the model is described in detail. Basic components include 1) curriculum decision-making responsibilities at team, school, and system level for the professional staff; 2) development of a school information system to provide appropriate data for individualizing instruction; 3) development of an individualized reporting system; 4) a system of instruction which seeks optimum individualization; 5) the development of differentiated staff roles; 6) the assignment of learners to an ungraded instructional pool; 7) reallocation of space and facilities; and 8) a high degree of school-community involvement. Included are a 20-item bibliography and a 13-item list of illustrative sources of information about individualized instruction. (JS)

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Working Paper

A PUPIL-ORIENTED AND INDIVIDUALIZED SYSTEM OF EDUCATION (POISE MODEL) GUIDELINES FOR IMPLEMENTATION

Authors and Contributors:

John B. Bouchard, Professor of Education at SUC at Fredonia and Executive Secretary, SWNY Association for the Improvement of Instruction

Kenneth G. Nelson, Director, Teacher Education Center, SUC at Fredonia

Teacher Education Center Staff:

Daniel Bauman; John Bicknell; Ronald Hull; Helen McKee; Mildred Mills; Madan Mohan, J. Brien Murphy; Thomas Petrie and Douglas Rector.

SWNY Association for the Improvement of Instruction
Education Department, and
Teacher Education Research Center
SUNY College at Fredonia, New York

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For Discussion Purposes

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Foreword

This working paper has been prepared for educational leaders. The assumption is made by the authors that substantive improvement of instruction can take place in the schools only with the sanction and support of creative leadership personnel. It is hoped that the ideas presented in the Guidelines will stimulate the thought and interest of New York State Education Department personnel, chief school officers, building principals and supervisors, and key members of teaching staffs.

Many individuals collaborated in the development of this first working paper. It is the result of the cooperative efforts of the Southwestern New York Association for the Improvement of Instruction, the Teacher Education Research Center and the Education Department of the State University College at Fredonia.

In addition, many ideas were gained from other major efforts underway throughout the country in the individualization of instruction. Particular mention must be made of the University of Wisconsin Center for Research and Development in Cognitive Learning program, Individually Guided Education in the Multiunit Elementary School. Special thanks are directed to Dr. Herbert J. Klausmeier, Mr. James E. Walter, and Mrs. Mary Quilling of the Center Staff for their interest in and support of Fredonia efforts in individualization of instruction. In addition, some practical "know-how" about getting school programs underway through inservice workshops and conferences for area teachers was provided through Wisconsin resource personnel. Mr. Norman Graper, Principal of the Wilson School in Janesville, Wisconsin and Mrs. Elaine MacGregor, Unit Leader from the Franklin School in Racine, Wisconsin, rendered most effective services as consultants.

Similar mention must also be made of the University of Pittsburgh Learning Research and Development Center and Research for Better Schools, Inc. program, Individually Prescribed Instruction. Special thanks are due to Dr. John G. Bolvin and Dr. C. Mauritz Lindvall of the University of Pittsburgh for their visitations to Fredonia and for the ideas they have provided.

The authors express their gratitude to Dr. Anthony Deiulio, Dean, Department of Education at the State University College at Fredonia for his suggestions and to Dr. Robert Driscoll, Director of Student Teaching at Fredonia for his cooperative efforts in relating student teaching experience to individualization efforts in the schools. For their support and technical assistance in the preparation and development of training materials, special thanks is due Dr. Robert Diamond, Director, and his staff of the Instructional Resources Center at Fredonia.

Perhaps the warmest thanks of all should be directed to the administration and staff of the area public schools which are working with the College at Fredonia to implement individualized instruction in their schools. For their leadership, their courage in initiating needed changes in their schools, and for their willingness to accept the hard work which accompanies innovation, special kudos are directed to the school staffs of:

The Cassadaga Valley Central School System

The Southwestern Central School System

The Falconer Center School System

Better individualized instruction can take place in the schools. It is being done.

SWNY Association for the Improvement of Instruction
Education Department, and
Teacher Education Research Center,
SUNY College at Fredonia, New York

Introduction

There are many approaches to the individualization of instruction. Whether a school staff elects to focus its attention and resources to help each of its pupils achieve the best possible education is certainly less debatable than how this is done. Few educators in today's schools would deny that treatment of students as unique individuals holds forth greater promise for the development of effective and contributing citizens for our society than do treatments which serve typical or average needs of groups of widely different students.

Despite the verbal allegiance to concern for individuals expressed by those responsible for educating our youth, however, the nation's schools have increasingly come under fire on many fronts for their failure to implement their spoken concern. Even a superficial examination of the contemporary literature will reveal indictment of the schools as "joyless places" for students which perpetuate curriculums irrelevant to the world of today and tomorrow. The literature also contains seriously considered and dramatic alternativesto the existing school structure for the education of young people. Educators had better take note when private corporations solicit contracts to do a better job than the schools have done in the education of children. Growing public interest in a voucher system which permits parents to choose the most promising school program they will support financially for their children should also communicate to educators some measure of public dissatisfaction in the schools.

While the development of alternatives to the present role of the school in the education of young people appears as a threat to some educators, others welcome the appearance of such alternatives as a means of stimulating and changing the public schools to do a more effective job than they have done. There is, indeed, an abundance of negative reaction to the schools of today in

the literature. But, perhaps even more prevalent is the widespread endorsement of positive roles that the schools can undertake to overcome their deficiencies. The past few years have witnessed a significant increase throughout the nation in the proposal and development of school programs which seek to individualize and humanize education for youth. The implicit assumption underlying such proposals is that the public schools should not be replaced but redirected. The authors of the Guidelines for Implementation of a Pupil-Oriented and Individualized System of Education (POISE Model) share this conviction.

In the POISE Model every effort has been made to systematically plan the redirection and reallocation of the resources of the public school to best accomplish the important task of individualizing instruction for each child. The resulting organization, use of staff, facilities and resources is far different from the traditional graded school. What has been sought is a total school environment which is facilitative to individualized instruction rather than group treatment of pupils.

Many elements of the proposed reorganization will be recognized as "old ideas" which have met with indifferent success in the past. It is true, for example, that many schools have tried and rejected team-teaching--or programmed learning. What is seldom recognized, however, is that such innovations have frequently been undertaken in organizational structures which in many ways were antagonistic to the successful operation of the new effort. The POISE Model represents an effort to identify and implement all the components which appear to be essential for the accomplishment of an individualized instructional program in the schools.

While the proposed reorganization represents the thinking of the authors at the present time, it should become evident that the model is still in the developmental stage. As will be discussed in the guidelines, considerable

supportive research will be required before such critical components as differentiated roles for school staff and truly individualized information systems become realities in the schools. At the same time, there appears to be sufficient "know how" about each proposed component to warrant beginning efforts toward individualization. To those who feel it essential to await a "final plan" before attempting to individualize instruction, it can only be said that decisions affecting the futures of children are also constantly being made in the graded schools on inadequate, unreliable, and invalid data. Too many of us have learned to tolerate such errors.

While it would be less than honest to deny the intellectual and emotional commitment of the authors to the POISE Model as a promising approach to individualizing instruction in the schools, no attempt is made to suggest it as The Model. There are many suggested programs for individualization which have been developed throughout the nation (See Appendix B for a listing of examples). Each of these programs may have appeal to given school staffs. What is important is not the given model, but the use it may have for interested and receptive school staffs.

The POISE Model represents an ideal for the individualization of instruction in the schools. As an ideal it can probably never be fully developed as a model or fully attained in a given school. It is felt, however, that any school can better achieve individualized instruction through careful study and implementation of the ideas expressed in the proposed reorganization.

One final thought must be expressed. The public school program is the responsibility of the state, the community, the school board, and the professional staff of the school. Whatever innovations take place must be decided by these groups in terms of their readiness and capabilities for the desired

changes. It is the function of college and university consultants not to direct change but to provide the best availableinformation upon which decisions for change can be based. The POISE Model has been developed in this spirit. If any of the suggestions it contains appear to have merit for the schools, the effort put into its formulation will have been worthwhile. Ideas can be presented on paper but individualized instruction must take place in the schools.

The Authors

A Pupil-Oriented and Individualized System of Education

(POISE Model)

Guidelines for Implementation

The Graded School and the Challenge of Tomorrow

By 1870, virtually every elementary school in America was a graded school. In 1970 most schools in America reflect the same kind of organization as did their hundred-year old counterparts. It took somewhat longer for the secondary schools (Junior-High; Senior-High) to become established as the common school. However, here again, the contemporary secondary school departs but little from its counterpart of the 1880's and 1890's. Instruction is still provided through class-sized groups organized for teaching required and elective subjects. While the curriculum has been enriched at both the elementary and the secondary level over the years, through the addition of "newer courses," it is still possible to identify many subject areas and courses which have remained relatively constant over the entire period of existence of the graded school.

There is little question but that the graded elementary and secondary school has made some significant contributions in the development of an educated citizenry for the American culture. Schools have helped develop a concept of America as a nation; the schools rendered a tremendous service to America in helping to assimilate the waves of immigrants who came to America from virtually every country in the world during the late 1800's and early 1900's. Schools were also very effective in helping Americans achieve a high standard of living and in building America as the world leader in industry and technology.

Despite the many contributions the schools have made in the past, the question can be seriously raised as to whether the graded school structure still represents, after one hundred years, the best system of education for coping with the rapidly changing problems of today's society. Identification of some of the critical problems confronting the world of today and tomorrow and the capability of the graded school to cope with these problems has been discussed in a working paper by Bouchard, "Overview and Meaning of Individualized Instruction." (5)

There is little question but that the graded school structure and organization is highly efficient in providing for such services as group instruction; assignment of teachers; accounting for pupils; scheduling classes; purchase and distribution of instructional materials and supplies. However, while it may be administratively efficient to treat students in groups, such a procedure hardly represents an effective means of providing for the tremendous range of individual differences which research reveals among groups of pupils at any given age-grade level.

Again, little attention is paid in the existing graded school structure to the wide range of individual differences which exists among teachers. Each teacher in the graded school is expected to assess pupil ability, plan instruction, present instruction, evaluate pupils, take care of individual differences among pupils, record and report pupil progress, and select and use a wide variety of instructional materials. All of this is to be accomplished at the same time the teacher is responsible for the management, discipline and control of an assigned group of learners.

There have been many attempts made, over the years, by conscientious educators to direct concern toward individual pupils. However, most of these attempts have, despite their good intentions, reverted to group rather than individual treatments. Efforts to really achieve effective individualized attention for pupils within the graded school structures face many limitations due to rigid scheduling, the concept that all teachers must perform common duties and are equally adept at discharging them, and the fact that curriculum and instructional decisions are made by individuals far away from the intimate teacher-pupil learning situation.

Redirecting the Educational Process

In these guidelines it is assumed that attention to individual pupils is the important mission of the schools. It has also been postulated that the traditional graded school organization not only fails to facilitate the achievement of this task, but may actually impede it. It appears reasonable to assume, then, that careful consideration should be directed to identifying and implementing another form of school organization which appears to hold the best promise of a facilitative environment for attending to the needs of individual children.

The following procedures are presented for the establishment of a school reorganization which will facilitate the achievement of objectives in the individualization of instruction:

1. Participating schools will seek to identify and undertake such changes in school organization as hold promise for facilitating work with the individual pupils.

2. Participating schools will reassign staff, pupils, resources and facilities in accordance with the patterns of reorganization identified for facilitating work with individual pupils.
3. Participating schools will work cooperatively with the SWNY Association for the Improvement of Instruction, the Teacher Education Research Center and the Education Department staff of the State University College at Fredonia in the continued evaluation of the reorganization which is adopted.
4. Participating schools will work cooperatively with the SWNY Association and SUC College at Fredonia staff in the dissemination of results for the further inservice training of professional staff and possible replication in other schools.

Brief Overview of the Proposed Organizational Structure

One of the most promising approaches to a pattern of school reorganization specifically directed toward the individualization of instruction is reported by the Center for Cognitive Learning at the University of Wisconsin (14). The basic elements of this new organizational model include: individualized instruction; instructional improvement committees; non-graded instruction and research units; differentiated staff roles and assignments for the principal, unit leaders, teachers, interns, student teachers, and instructional aides. Each of these elements is discussed below.

Of particular interest in this working paper are the variations under development by the Southwestern New York Association for the Improvement of Instruction and the Teacher Education Research Center at the State University College at Fredonia. Both organizations have cooperatively studied, with

interested area public schools, such variations of school reorganization as: (1) hold forth the best promise of meeting the particular staffing patterns of New York State schools and (2) have applicability to secondary as well as elementary grades. The Fredonia approach is entitled, Pupil Oriented and Individualized System of Education, hereinafter referred to as POISE.

While the presentation below provides a general model, it is anticipated that further adaptations to local circumstances among participating schools will also be required in terms of local interests, resources and capabilities. The proposed reorganization is felt to be sufficiently flexible to permit such accommodations.

Major Purpose of the POISE Model

It must again be stressed that the fundamental purpose of the proposed reorganization is to develop a school environment which is better oriented toward meeting the interests, capabilities and needs of individual pupils than the traditional self-contained classroom organization. Each of the minimum essentials of the POISE Model which is described subsequently has been identified and developed in accordance with its promise to facilitate one or more of the following:

1. To maximize opportunities for each student to be thought of and treated as an individual.

2. To redirect major staff interest and effort from group-subject orientation to the capabilities, interests, and needs of individual pupils.

3. To redistribute, and supplement where necessary, curriculum and instructional materials to meet the demands of an individualized rather than a group-centered educational program.

4. To reallocate, and modify where necessary, school facilities to permit the implementation of the proposed reorganization.

The Individualization Concept in the POISE Model

Since the basic purpose of the proposed school reorganization is to provide an environment which is facilitative to meeting the interests, capabilities, and needs of individuals, it appears essential that the concept of "individualization" be defined. Individualized instruction may be defined as the interaction between a student and school personnel which results in the adjustment of learning experience to the unique interests, capabilities and needs of the learner within the resources of the school. As used in the POISE Model, Individualization:

1. Implies that direction of the teaching-learning process will come from the study and awareness of individual pupils.

2. Implies that pupil-selected and/or teacher-assigned learning experiences will be related to the individual child's level of mastery and interest.

3. Implies that determination of staff responsibilities for individualizing instruction will come from the study and awareness of the capabilities and interests of individual members of the staff.

4. Implies that reports of pupil progress will relate to the individual's specific performance on self-chosen and/or assigned learning tasks.

It may be prudent to indicate also that Individualization, as used in the POISE Model, does not imply an educational program in which each child's learning experiences are provided solely via a one-to-one pupil-teacher ratio. Efficient though it may prove to be, the POISE Model cannot conceivably be manipulated to produce such results. While it may well be that the most effective education for a given child, in terms of his optimum development, is achievable only through a one-to-one tutor-pupil relationship, such an arrangement appears to be beyond the resources of any school.

The hypothesis has been made that the POISE Model does appear to facilitate the use of one-to-one pupil-teacher learning experiences more so than the self-contained classroom organization. This seems to be particularly promising in such areas as the learning skills, where available individualized curriculum materials can be identified. It also appears to be possible to increase teacher efficiency, and at the same time treat individual children's needs, by grouping small numbers of pupils who are at the same level of mastery in a particular skill. Small groups with similar interests and needs should be more readily available from a pool of 150 pupils rather than from a self-contained class of 25 youngsters.

The POISE Model does not preclude the use of small and large groups as appropriate and effective instructional procedures. The means through which the model enhances the use of such approaches will be discussed subsequently in this paper.

Identification and Definition of Essential Features of the POISE Model

The proposed reorganization appears to be sufficiently flexible to permit its application to a part of a school program or to an entire school. To facilitate discussion, the minimum essentials of the basic unit of a POISE Model school are identified below. A given school might, subject to the interests and capabilities of its staff develop one or more basic instructional units within a school for one or more skill or subject areas. A large school system may wish to identify one or more schools for a pilot program.

Essential Components of the Fredonia Model for a Pupil-Oriented and Individualized System of Education (POISE Model)

It is important to recognize that the POISE Model is in the developmental stage; however, it does appear possible to indicate, at the present time, those components which appear to be essential to the successful operation of the model. Such components include, but are not necessarily limited to, the following:

1. Curriculum decision making responsibilities at team, school and system level for the professional staff which include:

   a. at the instructional team level - the selection and assignment of all pupil learning experiences for which the school is accountable such as: skills, knowledge, performance, attitudes, values.

   b. at the school level - the coordination of curriculum decisions made by the various instructional teams within the school.

   c. at the system level - the coordination of curriculum decisions made among the various schools.

2. The development of a school information system to provide appropriate data for individualizing instruction such as:

   a. Data which will distinguish each pupil in terms of his present levels of attainment, his potential for further learning, his special interests, his attitudes toward learning, his values, his work habits, and the effectiveness of his learning under alternative instructional procedures.

   b. Data which will distinguish each member of the staff in terms of his special curriculum competencies, his preferences and skills in a variety of instructional procedures, and his effectiveness in working with various kinds of learners.

   c. Data which will distinguish a hierarchy of educational objectives and means for their assessment in those areas of the cognitive and affective domains for which the school assumes responsibility so that each pupil can achieve an optimum level of growth in terms of his unique characteristics.

3. The development of an individualized reporting system which will, at established times during the school year, or upon special request:

   a. inform each student (and his parents) of his success in achieving the specific behavioral objectives established for him by the instructional staff

   b. inform each student (and his parents) about the effectiveness of his performance under alternative instructional procedures

4. A system of instruction which seeks optimum individualization through:

   a. the development and use of specific behavioral objectives for each child which are based on his present level of attainment, his rate of learning and his potential for growth.

   b. the identification and use of those pupil-teacher relationships which are most effective for each child (tutoring; mastery-level groups; peer teaching; independent study; pupil contracts; interest groups).

   c. the identification and use of those motivational procedures which are most effective for each child (praise; knowledge of progress; cooperation; competition; ego involvement).

   d. the identification and use of instructional equipment and materials which are most effective for each child (audio; visual; manipulative; multi-media).

5. The development of differentiated staff roles which will:

   a. identify and implement the staff functions and assignments required in the individualization of instruction for all school personnel (administrative staff; supervision staff; instructional leaders; team teachers; special subject teachers; student personnel staff; internees and student teachers; teacher aides; other paraprofessionals).

   b. permit staff members to develop and use special talents for instructional skills (preparation; assessment; presentation; reporting).

   c. facilitate the induction of new staff and the retraining of present staff.

6. Assignment of learners to an ungraded instructional pool (75-150 pupils) to provide flexibility in scheduling individualized, small group, and large group learning experiences for such pupils.

7. Space and facilities which provide for:

   a. scheduling needs for individual, small group, and large group instruction.

   b. the development and use of a library and an instructional resources center.

   c. the use of a wide variety of instructional materials and equipment.

8. A high degree of school-community involvement which will:

   a. identify representatives from both the community and the school for the cooperative planning of the school program.

   b. identify and use individuals and community resources for the enrichment of the curriculum and the instructional program

   c. report progress in the development of the model program to the school board, parents, and other community agencies.

   d. establish cooperative working relationships with parent groups and other interested community organizations and agencies for the continuous development of the model program.

Staff Participation in Curriculum Decision-Making

One of the fundamental realities which must be faced by the professional staff in a POISE school is that curriculum scope and sequence is no longer neat arranged by placing each student in a compartmentalized group and expecting him to proceed, step by step, through a chosen text. The staff's role in curriculu decision making constitutes one of the most significant elements of the propose school reorganization--it involves a continuing planned effort to adjust curriculum and learning experiences to the needs, interests, and capabilities of students. The following are among the important guidelines which should direct the professional staff in its discharge of their important responsibilit

Identification of the specific limits of decision-making for the staff

It is essential that the instructional teams in POISE Model schools be given specific sanction by the school board to make curriculum decisions in the individualization of instruction for each pupil enrolled in the school. While a strong case can be built for complete freedom on the part of the instruction staff, it is recommended that curriculum decisions be made within the areas of the cognitive and affective domains for which the school has assumed responsibility. As a practical consideration for supporting such a choice, it should be pointed out that the curriculum structure in existence has provided the guidelines for the acquisition of the instructional supplies and equipment now on hand. As other curriculum changes seem desirable, the instructional staff can plan for new instructional resources.

Identification of planned systems for curriculum decision-making

Identification of a sequence of learning experiences which promote individualization of instruction in the skill subjects is far easier than in the content areas.

It is recommended that consideration in the skill subjects be first given to highly individualized curriculum programs such as the Wisconsin Design for Reading Skill Development (20), or the Pittsburgh Individually Prescribed Program in Mathematics (12). If these or similar programs cannot be implemented, the instructional staff may approach individualization by increasing the number of skill levels from one for each of the previously established grades to as many as can be identified. Further progress toward more realistic individualization will depend on staff ability to make additional curriculum refinements.

In the content areas such as social studies, some plan must be established to direct curriculum choices and to account for the learning experiences undertaken by individual pupils or small groups of children. There are several possibilities:

1. various techniques of cycling content may be utilized so that, over a period of several years, the content considered important may be "covered."

2. the staff may wish to identify the most significant possible topics for study within a given content area and tentatively designate a number of such topics to be undertaken by advanced, average, and slow learning pupils over a period of several years.

Identification of curriculum areas in which individualization will be stressed

It is recommended that a school entering into the POISE Model attempt to individualize instruction in one area only during the first year. Since reading is a basic tool, it presents a good first entry into individualization efforts. During the second year mathematics may well be added and individualization also undertaken in one of the content areas such as the social studies. As previously discussed, the basis for individualization will differ considerably between the "skills" and "content" areas.

Adjustment of the curriculum to the individual

There is little question but that the traditional school, by the simple expedient of blandly ignoring the realities of individual differences among its pupils, has neatly and efficiently disposed of problems involving curriculum scope and sequence. However, simply expecting that all children should learn the same things, at the same time, in the same sequence, and at the same rate hardly provides an intelligent course of action. Despite its beauty and simplicity, from a managerial point of view, such an approach finds little support in the research--other than the frequency with which it is employed.

The professional staff, in the exercise of its curriculum decision-making responsibilities, must be prepared to make frequent and sometimes dramatic departures from conventional curriculum practices in order to determine and provide the most effective learning experiences for each child. The following are illustrative of such departures:

1. Different children at the same "grade level" will be provided widely differing learning experiences and substantial departures from the "pre-set" curriculum.

2. Instructional groups may, by virtue of similarity of interest, ability, and performance level of their members, be composed of children of different "grade levels."

3. Instructional groups studying the same curriculum topics may use learning experiences and materials of widely differentiated levels of difficulty.

4. It may become necessary to postpone or waive curriculum "requirements" for some children.

5. Although such may not be appropriate for most pupils, it may be necessary to utilize special personnel, resources, and facilities in the provision of unique curriculum and learning experiences for some of the children enrolled.

It is readily apparent that the professional staff, in order to discharge its curriculum decision-making responsibilities, must have time in which to do so. The following procedures are suggested:

1. An intensive study of the curriculum offerings of the school, and the diagnostic data available concerning pupil capabilities, interests, and needs must be undertaken prior to entry in the POISE Program.

2. Plans must be established for the continued development of a comprehensive information system using college and university consultants as resources.

3. A minimum two-hour planning time, during which all professional staff are available, must be scheduled weekly. This may be accomplished by varying opening and closing times, and the length of the school day.

4. Daily planning time is essential and is readily achieved for at least part of the professional staff through the flexibility of the POISE Model itself.

The levels of curriculum decision making

There are several levels at which curriculum decisions must be made. Recommended procedures are as follows:

1. At the team level the instructional staff, with the assistance of the unit leader and the principal will select and assign all pupil learning experiences which are the responsibility of the school.

2. At the school level the unit leaders and the principal will coordinate the curriculum decisions made by the various units.

3. At the system level the principals and other selected representatives from the system-wide staff will coordinate the curriculum decisions made among the schools.

The Instructional Information System Required for the Effective Individualization of Instruction

The typical graded school has a very effective pupil information system which is appropriate to serve such services as group instruction, pupil accounting, pupil placement, and pupil appraising and reporting. Data available in such information systems usually include biographical information, records of attendance, health records, marks, pupil placement and performance scores on standardized tests. While such data provide some insights for treating children as individuals, much of the information relating to pupil progress in school is normative. It is easy to tell from such data how a given child compares with other children. But it is difficult to identify the specific skills a youngster has attained, and his specific instructional needs from comparative data. Such information must be available before an instructional staff can intelligently decide how to meet the unique needs of each pupil.

In order to achieve the most effective interaction between learners and their instructors, it is essential that carefully planned informational systems be developed. It does little good, for example, to insist that a child cope with a social studies text he cannot read simply because that is what students

in his grade are supposed to do. Frustration for the child is compounded when he finds that, despite his inability, his teacher insists on the completion of the task and penalizes him when he fails. Unhappily, such interactions are all too common in our schools.

It can be argued that better pupil-teacher interaction than the poor mix just described can be achieved even with the normative data presently available in the schools. But a carefully developed information system which provides data to precisely describe the specific needs, abilities, interests, and attitudes of both learners and their instructors is essential to the effective utilization of instruction. Unfortunately, such definitive information systems are virtually non-existent in the schools. While the long range task of developing such systems is formidable, this paper will suggest some attainable intermediate steps which promise to enhance individualization of instruction efforts.

It will be recalled that individualized instruction has been defined as the interaction between a learner and instructor which results in the adjustment of learning experiences to the unique capabilities, interests and needs of the learner within the resources of the school.

Once again, the acceptance of individualized instruction as the primary mission of a school forces some changes in the nature and objectives of its information system. These will be described first. Subsequently, the essential components of an effective information system will be discussed in terms of the pupil, the school staff, and the curriculum responsibilities assumed by the school. Scheduling, space and facilities are discussed elsewhere in this report.

The Objectives of an Information System designed to Promote Individualized Instruction

As a result of the information system designed to promote the effective individualization of instruction, data will be available:

1. To distinguish each learner in terms of his unique capabilities, interests and needs

2. To help the professional staff make decisions concerning the learning experiences to be provided for each student such as:

   (a) what he learns
   (b) when the learning is introduced
   (c) how he learns
   (d) his rate of learning
   (e) his optimum level of learning

3. To help the professional staff constantly reassess and report the progress of each student in terms of his unique capabilities, interests and needs.

The Nature of the Information Sought for Individualization of Instruction

In order for the instructional staff to make sound decisions in the individualization of instruction, an information system must provide data which:

1. Distinguishes each pupil in terms of his present level of attainment, his potential for further learning, his special interests, his attitudes toward learning, his values, his work habits, and the effectiveness of his learning under alternative instructional procedures.

2. Distinguishes each member of the school staff in terms of his special curriculum competencies, his preferences and skills in a variety of instructional procedures, his effectiveness in working with various kinds of learners.

3. Distinguishes a hierarchy of educational objectives and means of their assessment in those areas of the cognitive and affective domains for which the school assumes responsibility so that each pupil can achieve an optimum level of growth in terms of his unique capabilities, interests and needs.

A Pupil Information System for Individualized Instruction

It is helpful, in trying to identify the kind of pupil data required for effective individualization of instruction to examine what learning experiences pupils undertake in the school setting. These may be identified within such broad areas as skills, content, processes, interests, values, attitudes and the like. While such categories represent an oversimplification of the hierarchy of educational objectives to be discussed subsequently, they do present a practical means of identifying important kinds of pupil information which must be available for individualized instruction.

1. The Skills

Skill subjects such as reading, spelling, writing, mathematics can be readily defined in planned sequences of specific behavior. The so-called "content subjects" also contain readily identifiable skills such as map reading in the social studies and use of special equipment in science.

For the skill subjects the pupil information must provide data which:

(a) distinguishes the individual learner's initial status in the skills
(b) identifies particular obstacles to his learning
(c) helps establish appropriate behavioral objectives
(d) helps identify alternative educational experiences
(e) helps in the selection of the most appropriate alternative
(f) helps in the assessment of pupil progress in the attainment of the specified behavioral objective

If the child has succeeded in accomplishing the sought for behavior, the same procedure is followed for the next level of mastery. If the child has failed, the procedure is recycled through the choice of other alternative learning experiences.

2. The Content Subjects

The specific learnings which students should attain are less clear-cut in such subjects as literature, the social studies, and science than in the skill subjects. There is no clear cut evidence that any given body of content in science, for example, is essential for all learners. Some content is required, however, in the development of learning processes and procedures. And the school has its mandates from society to present selected bodies of knowledge considered to

represent "social literacy." There is little point in pursuing theoretical comparisons of the relative values of "this knowledge" versus "that knowledge." There are the very practical considerations that the schools have acquired instructional materials which represent the content selected and that the professional staffs have been prepared and recruited to provide instruction in such content.

Despite the complexities presented by the content areas, there appears to be certain kinds of pupil information which will greatly facilitate the individualization of instruction. Such data may include information concerning:

(a) The learner's past performance in the subject
(b) The learner's special interest in topics within the subject
(c) The selections for study made by the learner
(d) The learner's ability to cope with the instructional materials available
(e) The individual's potential level of growth in the subject.

3. The Pupil and Various Instructional Alternatives

An information system designed to promote individualized instruction should also provide data concerning each pupil's preference for and effectiveness in using various instructional alternatives. Such data may include information about:

(a) The learner's preference for such instructional modes as tutoring, membership in a small group, peer teaching, independent study.

(b) The effectiveness of such various instructional modes as those above in bringing about the objectives sought for the learner.

(c) The learner's preference for instructional materials and equipment (tape recorders, filmstrips, concrete materials, texts, etc.)

(d) The effectiveness of various instructional materials in bringing about the desired outcomes for the learner.

(e) The effectiveness of various motivational techniques on bringing about the desired outcome for the learner (praise, reproof, immediate knowledge of progress, extrinsic rewards, etc.)

A Staff Information System for Individualized Instruction

The teacher in the self-contained classroom is expected to individualize instruction concurrently with a host of other duties such as classroom management and discipline, preparation and use of instructional materials, lesson planning, evaluation, grading papers and the like.

In the POISE Model school staff personnel are members of an instructional team which selects and provides all pupil learning experiences which are the responsibility of the school. The team assignment, plus the organizational flexibility within the POISE Model, makes it possible to identify and use the individual strengths of each person on the team. In order to effectively achieve optimum utilization of each staff member, a staff information system is required. Such a system will provide data to:

1. Identify the special subject matter, interests and competencies of individual members of the team.

2. Identify preferences for and effectiveness in using such instructional modes as tutoring, small group instruction, large group instruction, peer instruction, individual pupil contracts.

3. Identify preferences for and effectiveness in using such instructional skills as:

   (a) planning instruction for individuals, small groups, large groups, independent study
   (b) presenting instruction for individuals, small groups, large groups, independent study
   (c) development and use of observation and evaluation techniques for the diagnosis of individual pupil progress
   (d) development and use of procedures for the induction of other members of the team
   (e) development and use of effective procedures for reporting the progress of individual children
   (f) development and use of effective procedures for informing and working with the community for the further enhancement of instruction.

An Information System for Distinguishing a Hierarchy of Educational Objectives

If individualized instruction is the primary mission of the school, its implicit purpose is to help each youngster achieve his optimum growth as a result of the learning experiences provided for him in the school. Such a goal appears to be far more realistic in an individualized approach such as the POISE Model than in the conventional graded school.

There is an abundance of evidence in the literature to indicate that the traditional school fails to challenge the more capable students and, at the same time, makes excessive demands on slower learners. The conventional school approach to instruction can also be indicted on yet another count--the educational outcomes on which student progress is evaluated. Even a superficial examination of the testing program suggests that the greatest concern (or perhaps because it is easier to obtain such information) is that students can recall or reproduce information committed to memory. Such an approach is hardly consistent with a philosophy of helping each individual to become all he is capable of being.

If the school is to indeed challenge each youngster in terms of his individual capabilities, interests and needs, an information system must take into account the educational objectives which are appropriate for him. Such information will supplement and reinforce the information available about pupils and the school staff.

It is beyond the scope of this paper to discuss in detail a hierarchy of educational objectives appropriate for a school. While it can be argued that there will be common educational objectives among all schools, each school will be different in the goals it seeks for its own pupils. It can also be argued that no school will probably ever succeed in establishing an ultimate and stable set of educational objectives because of, first, the very complexity of a comprehensive information system and second, the dynamic changes taking place in our society.

A general frame of reference for the establishment of a hierarchy of educational objectives and means of assessing their attainment can be presented, however. Direction can be gained from the work of Bloom (3) and Krathwohl (15). An information system can be built around the educational taxonomies they suggest. Such an information system will make it possible to:

1. describe hierarchial skills in terms of behavioral objectives
2. identify, develop and use appropriate test items, observations of behavior, and other evaluative procedures for determining whether the sought for behavior has been achieved.

Bloom and others (3) have further delineated and given illustrative objectives for the following broad areas in the cognitive domain:

The Cognitive Domain

1. Knowledge
2. Comprehension
3. Application
4. Analysis
5. Synthesis
6. Evaluation

Similarly Krathwohl and others (15) have presented a systematic analysis of the affective domain in the following broad categories:

The Affective Domain

1. Receiving
2. Responding
3. Valuing
4. Organization
5. Characterization by a value or value concept

Some Practical Considerations in the Development of an Information System to Promote Individualization of Instruction

The task of developing an adequate information system as proposed in this paper can appear to be overwhelming and complex. It can probably never be achieved as an ideal. However, when development is approached through the

identification and selection of priorities, the utilization of contributions of others, and the assistance of college and university consultants, a good information system becomes desirable and attainable. Several suggestions may facilitate such development:

1. Start in a skill area, such as reading or mathematics
2. Use available individualized curriculum systems
3. Use consultants from colleges and universities
4. Devote a portion of staff planning time made available through large group instruction and independent pupil study to the development of the information system.
5. Hold at least one fifteen minute conference weekly conducted by a member of the instructional team for each pupil in the instructional unit. Discuss and record progress, interests, attitudes, proposed learning experiences.
6. The benefits derived from a good information system are accumulative; once a part of the system is developed it becomes less difficult to add other parts to the system.

The POISE Model enhances the use of a good information system by providing frequent feedback to instructional staff and pupils through individualization procedures in constant use. While the use of a computer to provide quick feedback will probably be required eventually when the information data bank becomes more comprehensive and better developed, its uses in early stages does not appear critical.

Planning and Using Procedures for Individualizing Instruction

There are many possible procedures for individualizing instruction. Some of the most promising are discussed below.

At a practical level, teachers have long sought to cope with the problems and needs of individual pupils through tutoring, small group instruction, use of peer instructors, independent study and by differentiating assignments.

Independent study is even possible in large groups through the use of highly individualized curriculums and an adequate number of monitors for checking the progress of each child. The Individually Prescribed Instruction (IPI) Program in Mathematics developed at the Learning Research and Development Center at the University of Pittsburgh (12) is a good example of individualization in a large group setting.

As a matter of policy, direction may be given to individualization efforts in particular schools through the endorsement of one or more of such approaches as: helping each child master a sequence of specific predetermined skills; using pupil interest and motivation to guide curriculum assignments and choices; accelerating bright pupils; enriching the curriculum for the more capable students.

It is impossible in this paper to discuss in detail the many approaches to individualized instruction. An effort is made, however, to propose and describe briefly some promising procedures for individualization which can be used in any school but which promise to function especially well in the facilitative environment of the POISE Model. It is acknowledged that it is difficult to isolate the procedures suggested from one another and that each approach to individualization calls for the interplay and interaction of many forces and factors. Nevertheless, each of the proposed approaches can be sufficiently delineated so as to provide direction for planning and implementation in any school which undertakes the individualization of instruction as a major goal:

1. Individualization through adjustment of a pupil's rate of progress.
2. Individualization through adjustment of instructional modes.
3. Individualization through variations in curriculum expectations.
4. Individualization through variations in curriculum materials.

In addition, despite some overlap with the categories indicated above, some discussion will be directed toward the importance of behavioral objectives in the individualization of instruction.

Individualization may be achieved through adjusting a pupil's rate of progress

Attempts to individualize instruction through adjustment of pupil rate of progress have been frequently described in the literature. The Winnetka Plan, in the early years of the century, represented a systematic effort to adjust pupil progress, and for a time, won quite wide-spread recognition as an innovative approach to individualization of instruction. Recently, John Carroll of Harvard University, in his "A Model of School Learning," (6) expressed the conviction that nearly all students enrolled in a school can achieve basic understanding of required learnings through adjustment of time. His model includes five elements--three which relate to the individual and two which come from external conditions.

Individual factors are:

1. the amount of time the learner requires to accomplish the task under desirable conditions of instruction
2. the learner's ability to understand instruction
3. the amount of time the learner is willing to devote to the task

External conditions are:

4. the opportunity and time allowed for the individual's learning
5. the effectiveness of instruction

It is readily apparent that certain considerations must be taken into account if individualization of instruction is to be sought through adjustment of pupil rate of progress. It is first necessary to identify where the pupil is in terms of his achievement so that the appropriate point of entry in subsequent learning

can be determined. It is next required that the instructor help the pupil identify and use a pace which is comfortable to the learner. It appears essential also that the learner be given constant feedback so that he has knowledge of his progress.

The concept of some adjustment of rate of pupil progress should probably apply to all areas of learning for which the school is responsible. There are some dangers, however. The early efforts undertaken in the Winnetka Plan frequently resulted in stereotyped curriculums. While a case can probably be made that all students should be required to master certain basics in such skill areas as reading and mathematics, it appears to be hardly justified to propose the same curriculum for all students in such broadly conceived content areas as literature, the social studies and science.

Individualization through adjustment of instructional mode

If individualization of instruction is established as a major goal, instructional modes can be examined from a point of view which, on the surface appears to be less complex than so-called "instructional models." This approach is concerned with an investigation of the basic teacher-pupil interrelationships which make it possible for each child to learn in accordance with his capabilities, interests and needs. These instructional modes can be identified as follows:

1. Individualization of instruction through a teacher-pupil tutorial situation.
2. Individualization of instruction through the use of small instructional groups.
3. Individualization of instruction through the use of class sized or larger groups.
4. Individualization of instruction through the use of other pupils as teachers--e.g., peer instruction.

5. Individualization of instruction through independent pupil study, pupil contracts, or differentiated assignments.

6. Individualization of instruction through the use of parents, community resource personnel

It is beyond the scope of this paper to discuss each of the above in detail, but some of the important considerations relating to the effective individualization of instruction are presented below.

There is little evidence in the literature concerning the influence of various instructional modes on individual learning. In general, the research that is available tends to measure the accumulative effects of various kinds of instructional techniques and procedures on groups of children. Even here significant differences are seldom identified. It is possible that these group comparisons obscure important differences between subgroups. (e.g., slow learners, the disadvantaged, the very bright). It seems safe to predict that the future holds some intriguing possibilities for research concerning the influence of instructional variables on the learning of individual pupils. But, in view of the complexity of the teacher-pupil-learning environment, hard data to determine the "best fits" of these elements will be difficult to get for some time to come.

The oldest mode for teaching individual children is, of course, the teacher-pupil tutorial situation. This is, however, an expensive approach. If true individualization of instruction can be achieved effectively only through the utilization of a one-to-one teacher-pupil tutorial system, the cost would be exorbitant and beyond the ability of the schools. There are some refinements of this approach which are feasible, however. One such is the small ability group of perhaps five to eight pupils who are near or at the same level of achievement in the skills to be learned. The teacher probably can as effectively individualize instruction for all of the children in this small ability group as she can by working with each individual child.

Peer instruction, in which one pupil teaches another, appears to offer a very fruitful mode for individualizing instruction. Potentials for this kind of instruction lie both in the possibilities for individualized attention for the child who is to do the teaching as well as to the recipient of his instruction. Preliminary work at the University of Wisconsin Center for Cognitive Learning (13) suggests that peer instruction holds forth real promise for the development of positive attitudes on the part of both the student-instructor and the student-learner. Exciting possibilities for individualized instruction appear to lie in the use of motivational factors such as praise and feelings of success.

Independent study on the part of the pupil and contract plans appear to offer additional techniques for individualizing instruction. The contract plan is particularly rewarding when the pupil involved participates with the teacher in the development of the contract. One caution is indicated. The contract should be truly individualized for the student who undertakes it. The use of stereotyped contracts is no better for individualization than the typical single assignment to a classroom of youngsters if eventually all pupils are to go through the same contracts. The inservice training of a school staff for the development of pupil contracts can bring about almost immediate increases in the individualization of instruction. Guidelines for the preparation of such contracts are available from many sources. Practical applications may be found in Duluth, Minnesota Public Schools and in the Learning Aptitude Packages (LAPS) of the Nova Schools of Fort Lauderdale, Florida (16).

The effective teacher can individualize through careful use of questioning and dialogue even with classroom size groups. The understanding, sympathetic teacher makes an effort to adjust her questions to the level of ability of the youngster to whom the question is directed. When a sincere response is accepted

as a positive class contribution, the teacher is in effect showing some concern for the individual pupil involved. Unfortunately, teachers have used this kind of questioning skill in a negative sense. All too often, some teachers use special questioning as a means of ridiculing the respondent.

The use of parents and other community resource personnel provides additional opportunities for curriculum enrichment and individualized instruction. Schools all too frequently ignore these possibilities.

There are, of course, many other teaching skills and instructional modes which lend themselves to the individualization of instruction. Unfortunately, the scope of this paper does not permit a more thorough discussion. It is of interest to note, however, that work underway at the Far West Laboratory at Berkeley, California (4)in the development of minicourses holds forth some exciting promises for inservice training of teachers in the use of special teaching skills for the individualization of instruction.

Individualization Through Variations in Curriculum Expectation

Unfortunately, in most schools, the curriculum is typically aimed not at individual differences but at types of group differences. So-called "curriculum differentiations" usually involve the establishment of ability groups which pursue substantially the same curriculum at different rates and in different amounts according to the average, slow, or accelerated nature of the ability group.

There are exciting possibilities for the individualization of instruction through the variation of curriculum expectations for individual children. Perhaps the greatest obstacle to curriculum adaptation to individual pupil capabilities, interests, and needs is the lack of courage on the part of teachers to make

such changes. Why this is so, is difficult to understand; there is no substantiation in the literature that a given body of content in such subjects as literature, the social studies, or science is essential to the learning of all children in a school. Perhaps the conditioning of teachers through the textbooks they use, to a given curriculum for a particular age level of youngsters, has been so successful that teachers make few significant departures from the suggested body of knowledge.

Fundamental to the adaptation of curriculum content to the interest, capabilities and needs of the individual learner is official sanction by the school for the professional staff to make such curriculum decisions. Even if the school is reluctant to permit its staff to cross content boundaries established for study from one "grade level" to another, teachers still can make decisions within the content frame which will go far more in the direction of individualization of instruction than is typical in the traditional school at the present time. In the study of France, for example, at the traditional sixth-grade level, there is little justification for requiring all youngsters to restrict their study to the history and geography of France. Some of the youngsters might be "turned on" much more effectively if they were permitted and encouraged to study the music or the art or the literature of France.

Suggested guidelines for deviating from a static curriculum to better meet the needs of individual children include some assessment of the present level of achievement of the youngster in the particular subject in question; more importantly, his interests should be ascertained as to what he would most like to study. As a means of further breaking down the "lock-step mentality" which has been engendered among professional educators by the specified grade level content curriculum, it is suggested that interage grouping be utilized in

the so-called "content areas" as well as in the "skills areas." Further specific suggestions concerning individualization through curriculum variations have been discussed previously in this working paper under the topic, "Curriculum Decision Making by the Staff."

Achieving Individualized Instruction Through Variations in Instructional Materials

In recent years the schools have been virtually deluged by the appearance of innumerable new instructional materials and equipment. Some years ago much attention was directed toward the use of such innovative materials in facilitating mass instruction. More recently, attention has been directed toward the use of instructional materials as a means of individualizing instruction.

There is little question but that the many kinds of instructional materials now available in the schools do provide exciting new opportunities for learning for individual children. Such possibilities appear to be limited only by the imagination of the teachers and the pupils whom they instruct. No longer is there an excuse for the youngster who cannot read to sit idly at his desk while awaiting his "turn" with the teacher. Such a youngster can be guided to the school's instructional resource center and provided with single concept filmstrips which will communicate effectively to him the knowledge which is denied him via the usual route in reading. Portable tape recorders provide some excellent opportunities for peer instruction. The capable reader can be provided, for example, an opportunity to record a given story and to evaluate it along with the teacher to see how successfully he has recorded expression, enunciation, and the like. This tape might then be used by a youngster who has difficulty in reading as a means of reinforcement by listening at the same time he is seeking to read the story independently.

The scope of this paper does not permit further elaboration of the possible uses of instructional materials in individualizing instruction. However, it should be pointed out that many educators point to computer-assisted instruction as promising the only effective means of truly achieving individualization for students. While it is readily apparent from the present literature that computer-assisted instruction holds forth much promise, extensive use of computers in such a way is still in the future. Before the computer can be truly programmed to provide for the instructional needs of all the children in a given school, much preparation has to be made by using and improving the techniques and resources which are now available in the schools. A truly individualized program simply does not "just appear" in a computer. Such "software" only comes about as a result of intensive prior efforts. Once such a pupil information system is available, the computer upon receipt of pupil progress data, can greatly expedite instruction through prompt feedback of curriculum alternatives for individual learners. Final selection of alternatives can then be made by the instructional staff.

The Use of Behavioral Objectives

In a sense, the determination of appropriate behavioral objectives for a learner rests upon the teacher's responsibility to discern with accuracy the present level of the individual pupil under consideration. Levels may be, and usually are, defined in the areas of skills and knowledge. Hopefully, a true concern for individualization will also result in the establishment of behavioral objectives in such vitally important domains as pupil attitudes, feelings, and self-esteem. Subsequently, with knowledge of the present status of the learner, the teacher, in dialogue with her pupils can develop mutual agreement as to the specific objectives which are to be sought in terms of learning tasks.

Behavioral objectives can be relatively simple, for example:

> The pupil will successfully identify beginning consonants of words in his vocabulary

Another somewhat more complex behavioral objective, for a more mature learner, might involve:

> The pupil will explain, with the use of symbols, the characteristics and properties of sets.

What is most important in the utilization of behavioral objectives is that they must be realistic in terms of the capabilities, interests, and needs of the learner and are mutually agreed upon as being desirable attainments by both the instructor and the learner.

While it is important that teachers become familiar with behavioral objectives, it is beyond the scope of a school staff to undertake the task of attempting to translate into behavioral statements, all of the learning experiences for which the school assumes responsibility. Fortunately, some excellent statements of behavioral objectives are available from such sources as the Center for the Study of Evaluation at UCLA (7). Other behavioral objectives can be readily derived from such highly individualized curriculums as the Wisconsin Design for Reading Skill Development (20) or the Pittsburgh Individually Prescribed Instruction in Mathematics (12). Schools should also enlist the assistance of consultative staff from colleges and universities.

Differentiated Staff Roles

While both the number and kind of staff members identified with an instructional unit of the POISE Model will undoubtedly vary from one school to another because of such factors as size of the unit, and level of the unit (e.g., elementary or secondary), it is possible to identify typical members and to briefly define their roles as follows:

The Principal

The principal is an integral part of the basic unit instructional team. His most important responsibility is to provide leadership in curriculum decisions and instruction. Where a school contains both the basic POISE unit and the traditional self-contained classrooms, he will have the responsibility of coordinating the differing demands of both types of organization on the school's facilities and resources. Where an entire school program is organized as a POISE Model, he will have the responsibility of coordinating the efforts of Unit Leaders within his school and communicating the school's efforts to appropriate system-wide authorities.

The Unit Leader

The Unit Leaders are directly responsible for the planning and implementation of the learning-experiences to be provided by the instructional team for the children enrolled in the instructional unit. This professional leader has approximately half-time teaching responsibilities and is also provided release time for planning. To avoid possible conflict with the principal's leadership status in the school, it appears to be important that no administrative authority over personnel be assigned to the Unit Leader. In recognition of the additional responsibilities such an individual assumes, however, it seems appropriate to suggest extra compensation for the Unit Leader.

Teachers

Appropriately certified teachers should be available as members of the instructional team in a ratio of approximately one teacher to every twenty-five pupils enrolled. At the elementary school level, the instructional team will be drawn from teachers normally assigned to self-contained classrooms. At the secondary level the instructional team will include those teachers normally assigned to classes serving the students now enrolled in the instructional unit.

Also included on the instructional team are the professional staff members typically described as "special" teachers in the traditional school organization (e.g., music, physical education, art, pupil personnel staff, etc.).

Each teacher-member of the instructional team should assign highest priority to the responsibility for providing, in accordance with his special talents and capabilities, individualized instruction to some or all of the pupils assigned to the instructional unit. Other professional responsibilities include participation in the cooperative planning of the instructional program and discharging an appropriate share of the professional obligation identified as a result of such planning.

Special Non-Professional Aides

Two special non-professional assistants are suggested to enhance the operation of the instructional team; these are the clerical aide and the instructional aide. There appears to be little question but that the successful operation of the instructional unit will require substantial increases over the operation of a traditional school program in such services as preparation of lesson plans and daily schedules and the identification, procurement, use and return of differentiated instructional materials.

It is recognized that in some schools such factors as size of the instructional team due to generous teacher-pupil ratios and the ready availability of school clerical services may appear to minimize the need for non-professional aides. It is suggested, however, that careful consideration be given to the appointment of both a clerical assistant and an instructional media assistant to every instructional unit on the grounds that such aides permit the teacher members of the instructional team to concentrate their time and effort on the professional tasks of planning, presentation, assessment, guidance and reporting.

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TEACHER EDUCATION RESEARCH CENTER
STATE UNIVERSITY COLLEGE
Fredonia, New York

Dear Colleague,

Enclosed please find a Working Paper, A Pupil-Oriented and Individualized System of Education (POISE Model), Guidelines for Implementation.

We are deeply indebted to a large number of individuals and groups who have assisted us in the development of this paper. Further, since this paper represents a developing concept, we will greatly appreciate your reactions and comments.

Because this is a working paper we are preparing only a limited number of copies. At some later date when the development of the concepts has reached a more mature stage we will consider preparing additional copies.

It should be noted that the suggestions for individualization are such that they might have application in a variety of situations. If you feel that further distribution of this working paper would be of use to you, please feel free to replicate the copies you need.

Sincere appreciation is due to the Chautauqua County BOCES staff for their cooperation in printing and binding this publication.

Sincerely yours,

John B. Bouchard

John B. Bouchard, Exec. Secy.
SUNY Association

Kenneth G. Nelson

Kenneth G. Nelson, Director
Teacher Education Research Center

JBB/KGN/mta
1/27/71

Enclosure: 1

Other Members of the Instructional Team

It is considered essential that arrangements be made to provide systematic and continuous college or university consultative services to members of the instructional team. Such consultants should be thoroughly familiar with the POISE program and be prepared to render such assistance as the following: continuous evaluation of the operational success of the model; in-service education programs; guidance in curriculum development; assistance in developing an information system to promote individualization; identification, procurement, and use of newly developed instructional materials for the individualization of instruction.

Analyses of the particular programs in given schools will reveal additional personnel needs to accomplish the objectives of special programs. Typical additional needs will include special resource personnel from community agencies and the use of mature students enrolled in the school as special tutors of younger and less advanced children.

The Study of Differentiated Staff Roles

As previously discussed in this paper, the use of an instructional team, as opposed to using teachers in self-contained classroom, produces unusual opportunities to identify and utilize special abilities among the team members. These may include the study of special interests and competencies among members of the staff as to instructional modes, special teaching skills, and the special needs of learners.

The instructional team concept also introduces some exciting possibilities for the more effective induction of school personnel of all categories such as: beginning teachers, student-teachers and interns, and paraprofessionals.

Since the instructional team creates new demands for staff utilization, it also holds forth great promise as an effective means of retraining experienced teachers. Further along the way, after research identifies emerging staff roles more clearly, the differentiated staff concept should prove to be a rewarding means of proposing performance-based criteria as an alternative to the traditional counting of college courses and years of experience for teacher appointment, certification and tenure. The differentiated roles concept also appears to suggest different preparation for and use of school leadership personnel. The unit's instructional leader represents a new kind of supervisory role which calls for the ability to work well with an instructional team. Such findings are indicated in preliminary studies of supervisory practices in innovative school settings by Pellegrin (19). The placement of the curriculum decision making function at the instructional rather than the administrative level places new demands on teachers and school principals. Recently, the leadership role of the traditional school principal has been under scrutiny and challenge in current collective negotiations between teachers and school boards. The POISE Model provides an educational environment which calls upon the principal to exercise high leadership and staff-supportive functions in the coordination of curriculum and learning experiences.

The Assignment of Learners to an Ungraded Instructional Pool (75-150 Pupils)

In the POISE Model the assumption is made that the capabilities, interests and needs of individual children cannot be well served if pupils are assigned, on a permanent basis, to stable learning groups. Instead, the most flexible pupil assignment procedures possible in the school must be sought to provide, on a daily basis if necessary, for the wide ranges in pupil performances as well

as styles and rates of learning which exist among student populations. The basic model provides for the establishment of a pool of approximately 75-150 pupils who may be either of the same age-grade level or different age-grade levels.

Wherever possible, it is urged that the ungraded instructional pool be formed by grouping together youngsters of several age levels rather than one. This organization is much more consistent with the underlying philosophy of the POISE Model that there are wide but overlapping differences in achievement among youngsters of all grade levels. This is that,apart from efforts to individualize by mastery levels in the areas of the basic skills (reading, spelling and mathematics), the use of horizontal groups may "lock in" class instruction in such subjects as the social studies and science.

Depending on the size of the school, the interests of the staff and other factors, such groupings as the following may be chosen from the usual grade levels:

K-5	K-3 and 4-6
K-6	K, 1-3 and 4-6

At the secondary school level, interage groupings may be undertaken within the school subject areas.

Other guidelines suggested for the operation of the pupil pool are as follows:

1. It will be necessary, for pupil accounting purposes, to assign children to homeroom groups. Such groups need to meet only long enough to discharge such functions as attendance, health screening, and dismissal. In keeping with the spirit of flexibility inherent in the POISE Model, it is suggested that homeroom groups be organized on an interage or intercurriculum basis.

2. Initial assignment of pupils to learning experiences will be tentatively made by the professional staff as a result of study of curriculum and diagnostic test data prior to entry into the POISE Model.

3. Constant adjustment of pupil assignments to appropriate learning experiences will be made as a result of staff reappraisals of pupil progress during weekly and daily curriculum decision-making sessions.

4. Day-to-day and week-to-week pupil assignments will typically involve the following options depending upon the curriculum objectives, the nature of the task, the resources available, and the needs of the students:

   a. Individualized instruction where a pupil will receive attention at his level of interest or mastery on self-chosen and/or assigned tasks. Such individualization may be given to the child on a one-to-one teacher-pupil basis or in a small group where each child is at the same level of learning.

   b. Small group instruction in areas of the curriculum which meet the common interests and needs of the group. The professional staff must be prepared to make substantial departures from the traditional curriculum as to what is studied, the level and rate of pupil-learning anticipated, and the instructional techniques and materials used.

   c. Large group instruction where appropriate and desirable. Use of this procedure will depend to some extent on the range of differences among the pupils in the large group. In general, the following appear to be feasible: presentations resulting from special studies by individuals and small groups; presentations by community resource personnel; introductions to new units of study; dramatics presentations; assembly programs; group singing; films on carefully selected topics; current events.

   d. Independent study where a given pupil is accorded freedom to choose, under professional supervision, topics for special study, special approaches to study of the topic, and the instructional materials appropriate to his ability and level of interest.

   e. Special curriculum and learning experiences which are designed to meet the unique needs of given children, such as the very bright or the slow learning pupils. While such curriculum experiences may not be appropriate for all children, the flexibility in assignment of pupils accorded by the POISE Model facilitates such provisions for unusual needs without focusing undue attention on the pupils who exhibit such needs.

   f. Special purpose groups in which children may analyze problems, do special research, or experience special study process.

Appropriate School Facilities

In order to implement a basic unit of the POISE Model, a school should be able to provide minimum physical facilities such as the following:

1. Space and stations for individualized instruction on a one-to-one pupil-teacher ratio, or for small groups.

2. Sufficient classroom spaces for small group instruction.

3. A classroom area or other suitable space sufficiently large to accommodate the total group of 75-150 pupils.

4. A school library sufficiently large and well-equipped to be used for small group instruction and independent study.

5. A materials resources center to provide a wide variety of audio-visual equipment and materials of instruction. This center should be sufficiently large to accommodate several instructional groups and pupils with independent studies at the same time.

It must be pointed out that while the optimum operation of a basic POISE unit would appear to be more readily attained in a physical environment specifically planned for this reorganization, a new school plant is not essential. Some of the most successful operations of the Wisconsin Multiunit Reorganization have, for example, been undertaken in old school buildings. It is suggested that careful study be directed to the readjustment in physical facilities required for operation of the proposed reorganization before the entry of a school into the POISE program. Visits to many schools suggest that the physical facilities required may usually be achieved through use reallocations and an occasional modest investment in readjustment of space.

It is extremely important to note that optimum individualization of instruction can be achieved by a school staff only where constant and extensive use is made of all available facilities for tutoring, small group instruction, large group instruction, and independent pupil study in the library and instructional resources center.

Differentiated Curriculum and Instructional Materials

The effective operation of a basic POISE unit requires the use of curriculum and instructional materials in ways radically different from their use in the traditional self-contained classroom or departmentalized school. Problems of special concern include: the identification and selection of curriculum materials for individualizing instruction; the use reallocation of curriculum and instructional materials held presently in the school; the identification and selection of curriculum materials to serve the special needs and programs emphasized in a given school; the cooperative sharing of instructional materials among schools.

Identification and selection of curriculum materials for individualizing instruction

Unfortunately, while much verbal support is given to the need for individualized instruction, there is limited availability of curriculum materials which are highly individualized. Such materials, as has been previously stated, are more likely to be found in the communication skills, mathematics, and in science. It is suggested that participating school staff make their selections of such materials under the guidance of college and university consultants.

It should be pointed out that a given set of individualized curriculum materials will serve many pupils under the POISE Model. The flexibility of pupil assignment incorporated in the model permits the use of such materials at many different levels of mastery for many different pupils at the same time.

Use-reallocation of presently held curriculum materials

Most, if not all, the curriculum and instructional materials previously used in a school for group instruction of pupils in self-contained or departmentalized classrooms can be effectively used in the POISE Model. There is little question but that the quality and authorship of many recent school

textbooks is first-rate and that most schools have a heavy financial investment in these texts. While there is much criticism of the "textbook dominated curriculum" in the literature, the fault generally lies in the use to which texts have been put rather than in the texts themselves. Under such circumstances, it would be ill-advised educationally, and financially irresponsible, for a school staff to renounce such potentially useful aids to instruction. Within the proposed reorganization, the professional staff will determine, through its curriculum decision-making responsibilities, how learning experiences appropriate for individual children may be selected from curriculum materials on hand. Three cautions must be stressed.

1. No child should be expected to cope with instructional materials which he cannot read or which are beyond his comprehension.

2. A child who demonstrates easy familiarity and/or boredom with the curriculum materials provided for his use should be presented more challenging learning experiences, and curriculum materials more appropriate to his level of performance.

3. While a given text, or combination of texts, might conceivably present the best selection and sequence of topics which should be provided for a given child in any area of the curriculum, such a contingency should be expected to occur only rarely. The best combination of learning experiences should usually come about as the result of discriminating use of texts, library selections, and wide choices from among the many curriculum materials made available through the school's instructional resources center and the cooperative sharing of materials among several schools.

It should be mentioned that implementation of the POISE Model is likely to bring about changes in school purchase of instructional material. Since the newer pattern of organization will no longer perpetuate the need for purchase of the same hard-cover texts for each child at a given grade level, it is likely that funds formerly used for such purposes will be redirected toward the purchase of individualized learning, library and instructional center materials. Such a policy is in keeping with the individualization thrust of the POISE Model.

Curriculum materials to serve needs of special programs

It is anticipated that some, if not all, schools participating in the POISE Program will wish to implement additional programs for special pupils in which the school reorganization will serve as a facilitate environment. The new school environment in which "individualization" is the primary concern should accommodate special provisions for the unique needs of its exceptional children without focusing undue attention on the "differences" such children may reflect. The identification and selection of instructional materials appropriate to such special programs is beyond the scope of the general guidelines of the POISE Model. It is recommended that the consultative services of appropriate college and university consultants be used in the identification, selection and use of these specialized curriculum materials.

Cooperative sharing of curriculum materials

There is little question but that the acquiring and up-dating of curriculum, library, and instructional resources materials can be a matter of significant financial outlay for any school. It is suggested that the flexibility of the POISE Model will facilitate cooperative purchasing and sharing of instructional materials among participating schools. Where regional instructional materials centers such as Boards of Cooperative Educational Services are already in existence, very real economies may be affected by schools which elect to deposit collectively purchased materials in such centers for shared use.

Community Involvement in the POISE Model

It must be remembered that the schools belong to the people and that, before substantial departures from the existing program are undertaken, public approval is required. Once approval is secured, and the innovative program is mounted, constant feedback must be provided to the community as the program matures.

Certain procedures are recommended to school staffs seeking to implement the POISE Model.

1. The community and the school board must be introduced to the concept of individualized instruction. This may be accomplished by the following:

   a. the use of special training materials and procedures now available or under development at the State University College at Fredonia and other sources

   b. the use of special consultants from Fredonia or outside sources to present programs on various components of individualized instruction

   c. visits to schools which have undertaken the implementation of the POISE Model or other approaches to programs of individualization.

2. Emphasis must be placed on the fact that the POISE Model attempts to reallocate the present resources available to the schools rather than make dramatic new demands for additional funding. Careful costing-out studies must be undertaken to establish actual costs.

3. A representative community group must be identified to work with the professional staff in the cooperative planning and development of the innovative school program.

4. The school-community planning group should identify community resources and personnel for the enrichment of the curriculum and the instructional program.

5. Care must be taken to ensure that all levels of personnel <u>within the school</u> are kept informed about progress in the implementation of the POISE Model. The elementary staff, for example, cannot successfully implement such a program without the understanding and cooperation of the secondary school staff.

6. Teachers should utilize, at least twice a year, the informal parent conference as a means of reporting the progress of individual children. Such conferences represent unique opportunities for communicating problems and progress made in the individualization of instruction.

Probably the most effective communications between school and community will be provided by the pupils enrolled in the school. The most important outcome of a successful system of individualized instruction is a school population of happy, successful and productive children who like school. That is what a Pupil-Oriented and Individualized System of Education is all about.

Further Development of the POISE Model

It is readily admitted that the dramatic restructuring and redirection of the school called for in the POISE Model poses many questions for which there are only partial answers at the present time. The proposed model calls for fundamental changes in the attitudes and behaviors of teachers and other school personnel in order that each child may be treated as an important, unique human being. Such changes can take place only when there is heavy community involvement in the school. Better school-community communication is but one small part of this involvement. Parents and other community representatives must take active roles in planning the changes, in identifying the community resources which can contribute to the school curriculum, and participate in the enrichment of instruction.

There is little doubt but that the proposed model will be further refined and developed as supportive research provides data for better and more complete answers to the many problems which can be raised. The following are illustrative of some of the problems identified for further study.

Concerns relating to the development of an information system

How can an information system which is adequate for individualizing instruction be developed? What data will be required concerning pupils? School staff?

Curriculum objectives? Effective instructional procedures? How can the information system be managed?

Concerns relating to the development of differentiated staff roles

How can the roles of school staff most appropriate for the individualization of instruction be identified? What roles should be assumed by different members of the staff (principal; supervisor; instructional leader; team teacher; pupil personnel staff; special subject staff; teacher aides; internees; student teachers)? How can new staff members be inducted? How can special skills be taught?

Concerns relating to the development of curriculum materials

What individualized curriculum materials are presently available? Under development? How can existing curriculum materials be reallocated for individualized instruction?

Concerns relating to the humanistic aspects of children's education

How can the school direct at least equal concern toward children's attitudes, emotions, feelings and values as it does to knowledge and understanding? What data are required? What factors must be considered in pupil-teacher relationships?

Concerns relating to community involvement

How can parents and other community representatives participate in planning and deciding desired changes in the school? What resources can the community contribute to the school curriculum? To the enrichment of instruction?

To go into greater detail about future plans for the continued development of the POISE Model is beyond the scope of this paper. However, in order to give a better understanding of the dimensions of the task, and at the same time provide some practical suggestions for participating schools, selected specific objectives and suggested means for their evaluation are presented in Appendix A.

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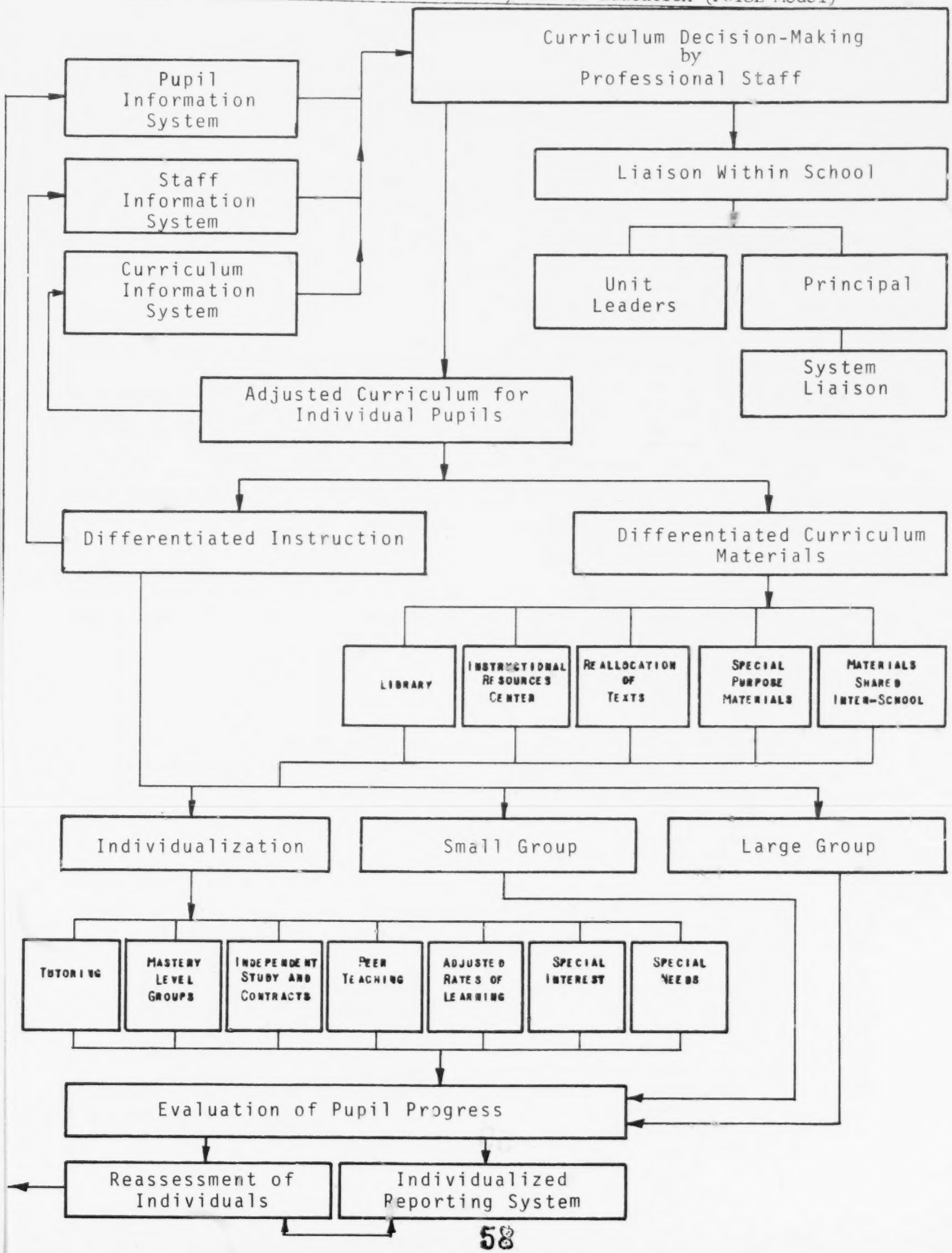
APPENDIX A

Paradigm of POISE Model A-1

Illustrative Objectives and Evaluative Procedures Suggested for POISE School A-2 to A-9

A-1
Paradigm of

A Pupil Oriented and Individualized System of Education (POISE Model)



Illustrative Objectives and Evaluative Procedures
Suggested for POISE Schools

Objectives	Suggested Evaluative Procedures and Techniques
Curriculum decision-making responsibilities	
As a result of on-the-job study and inservice training of staff in POISE Schools:	
Team leaders will, with the assistance of team teachers, select and assign all pupil learning responsibilities which are the responsibilities of the schools.	Documentary evidence of board assignment of curriculum decision-making responsibility to teachers, administrators. Interviews with teachers, pupils to note individualization through skill, knowledge, performance, attitude, interests, values. Records of individual pupil assignments Records of pupil assignments
School principals (or supervisors) will, with the assistance of team leaders, coordinate curriculum decisions made by the instructional teams.	Evidences of change; minutes of meetings; revised curriculums.
School principals (or supervisors) will, with the assistance of other principals, coordinate curriculum decisions made among various schools.	Evidence of curriculum differences among schools in the system.
The development of a school information system	
As a result of on-the-job study and inservice training of staff in POISE Schools:	
Data will be available for each pupil concerning: his present levels of attainment; his special interests; his attitude towards learning and his values; his work habits; the effectiveness of his learning under alternative instructional procedures.	Records of pupil data in use Interview records - individual pupils Individual pupil folders Records of pupil performance Examination of assignments Examination of evaluative procedures; instruments; plans for collecting data; managing pupil information system

Objectives	Suggested Evaluative Procedures and Techniques
Data will be available for each member of the staff concerning special curriculum competencies; preferences and skills in various instructional procedures; effectiveness in working with various kinds of learners.	Records of training Records of staff interviews Records of preferences; attitudes Records of pupil outcomes in various instructional procedures Records of work with various kinds of learners
Data will be available to distinguish a hierarchy of educational objectives in those areas of the cognitive and affective domain for which the school assumes responsibility.	Examination of behavioral objectives for various pupils Examination of pupil learning experiences to determine degrees of difficulty established for various learners. Examination of pupil learning experiences to determine influence of differences in pupil attitudes, interests, values.
Teachers will make weekly surveys of diagnostic data concerning individual capabilities, achievement, interests and needs.	Frequency studies of teacher utilization of data
Teachers will make greater utilization of reference sources related to the validity, reliability, and appropriateness of diagnostic instruments and procedures.	Frequency studies of teacher utilization of basic references.
Teachers will make weekly reassessment of individual pupil progress.	Sampling of pupil assignments to observe changes.
Teachers will support, on the basis of pupil performance, decisions concerning changes (or failures to change) in pupil assignments.	
Teachers will increase the number of individualized assignments made for pupils; teachers will decrease the number of class assignments.	Frequency studies of individualized, small group, large group instruction.
Teachers will increasingly use behavioral objectives which specifically relate to individual children.	Observation and comparison of objectives, of pupil work and assignments within given age groups; across age groups

Objectives	Suggested Evaluative Procedures and Techniques
Teachers will increasingly use pupil-teacher and parent-teacher conferences.	Records of pupil-teacher; parent-teacher conferences; comparison with former reports; frequencies of conferences.
Teachers will increasingly use reporting procedures which provide data concerning the progress of individual children; teachers will decrease use of normative and group standards in reporting pupil progress.	
Assignment of learners to an ungraded instructional pool (75-100 pupils)	
As a result of on-the-job study and inservice training in POISE Schools:	
Teachers will, on a daily (or weekly) basis, participate in instructional team decisions to assign or reassign pupils to individual and/or group instruction.	Studies of records of instructional team meetings. Examination of pupil groupings, schedules.
The development of an individualized pupil reporting system:	
As a result of on-the-job study and inservice training of staff in POISE Schools:	
Each child (and his parents) will be informed about his success in achieving the specific behavioral objectives established for him by the instructional staff.	Sample reports of pupil progress Evidence of parent conferences at scheduled times, by request
Each child (and his parents) will be informed about the effectiveness of his performance under alternative instructional procedures.	Records of pupil performance showing adjustment of rate; adjustment of curriculum expectations; adjustment of instructional mode; adjustment of learning materials.
A system of instruction which seeks optimum individualization	
As a result of on-the-job study and inservice training of staff in POISE Schools:	

Objectives	Suggested Evaluative Procedures and Techniques
Specific behavioral objectives will be established for each child. Each child will be assigned to the instructional modes in which he performs most effectively. Each child will use the learning materials which are most effective for him. Motivational procedures most effective for each child will be employed.	Examination of objectives for different children Data on pupil performance in various pupil-teacher relationships; data re-effect of motivational procedures; pupil effectiveness in using various kinds of instructional materials
Teachers will demonstrate increased skills in and use of such procedures as: tutoring; guiding-peer teaching; guiding independent study; making individualized assignments; individualizing instruction in small and large groups.	Video tape and records of performance. Records of minicourse influences. Observations of specific teaching skills.
Teachers will demonstrate increased skills in and use of various interpretations of individualization such as: mastery level instruction; pupil motivation; acceleration; enrichment.	Analyses of pupil assignment and products for indications of mastery; special motivation; means of acceleration; enrichment activities and materials.
Use of space and facilities	
As a result of on the job study and inservice training of staff in POISE Schools:	
Teachers will demonstrate more flexibility in scheduling facilities for individualized, small group and large group instruction.	Comparison of previous and past class and pupil schedules.
Teachers will make more extensive use of the instructional materials center.	Studies of utilization of instructional materials center. Studies of utilization of library.
Teachers will make increased use of a wide variety of instructional materials and equipment.	Studies of utilization of instructional material.

Objectives	Suggested Evaluative Procedures and Techniques
School-community relationships	
As a result of on-the-job study and inservice training of staff in POISE Schools:	
Teachers will participate more frequently with parents and community groups to report progress in the development of the POISE Model.	Identification of community representatives for planning Records of types of groups; frequency of meetings; topics discussed; cooperative planning.
School-community groups will meet more frequently for cooperative planning of school programs.	
The school curriculum will include instructional materials and resources drawn from the community.	Identification of materials from community
Parents and other community resource personnel will share in providing instruction in the school.	Records of instruction by topic and community representative
Development of differentiated staff roles for school personnel including: administrative and supervisory staff; instructional team leaders; experienced team teachers; internees and student-teachers; paraprofessionals	
As a result of on-the-job inservice training of staff in POISE Schools:	
Teaching personnel will spend more time in: diagnosis; individualizing assignments; participating on curriculum decision-making teams; individualizing instruction; reporting individual pupil progress.	Observation of teacher performance. Logs and diaries of teachers.
Teaching personnel will spend less time in: preparing instructional materials; teaching self-contained classrooms; classroom management and control; completing routine reports.	

Objectives	Suggested Evaluative Procedures and Techniques
Administrative and supervisory personnel will spend more time in: establishing liaison among the instructional teams within their schools: establishing liaison among the various schools in the system; establishing a public information and communications system.	Observation of administrative performance; logs and diaries of administrators
Administrative and supervisory personnel will spend less time in: clerical duties; office routines; plant management; scheduling.	
The professional staff will develop systematic, sequentially planned activities for the induction of: new team members; beginning teachers; student teachers; paraprofessionals.	All members of the school staff will keep representative samples of their daily activities for periodic reviews by the instructional teams.
The professional staff will recommend criteria for the following: permanent appointment of a teacher on probation; appointment of a team teacher as a unit leader; appointment of a team teacher or unit leader as an administrator or supervisor.	Tentative recommendations made; study and revision records; final recommendations for negotiations.
The school will provide information on career opportunities for all members of the school staff to include: paraprofessionals who wish to become teachers; members of the professional staff seeking promotions.	Documentary evidence of school career opportunities.
The school will develop and implement a differentiated pay schedule which will consider; among other factors (such as experience and training), the different levels of responsibilities assumed by the staff.	Revised pay schedules adopted by board.

Objectives	Suggested Evaluative Procedures and Techniques
In order to avoid a rigid hierarchy of staff utilization, the school will adopt provisions whereby contingency staff assignments may be made on an ad hoc daily basis by instructional teams.	Board statement on flexible assignment policy.
The Development of a Facilitative Environment for Induction of Staff Personnel	
As a result of on-the-job study and inservice training in POISE Schools, the facilitative environment will affect the school staff so that:	
The special contributions of each staff role to the Individualization and Induction Models will become more sharply defined.	Observations of tasks performed. Continued study of time-task allocations associated with each position.
The Elementary Principal and/or Elementary Supervisor The Instructional Leader Team Teachers Special Teachers (Reading Physical Education, Art, Music, etc.) Student Teachers Internees Paraprofessionals (Teaching Assistant, Clerical Aide, Instructional Materials Aide, Library Aide, etc.)	Study of interactions among instructional team members in decision making. Study to identify the factors influencing changes in the allocation or assumption of tasks. Study to evaluate outcomes of alternative roles. Interviews of staff personnel to determine attitude toward assignment, suggestions for change. Comparative study of alternative role among various Pilot Schools.
The Instructional Team will assume responsibility for identifying and providing individualized assistance in the induction of new staff personnel.	Development and field testing tentative guidelines. Preparation and testing of final recommendations.
Each inductee will become familiar with the responsibilities and assignments of all members of the instructional team.	Study and identify special interests and competencies of experienced members of the instructional team of inductees.

Objectives	Suggested Evaluative Procedures and Techniques
Each inductee will become familiar with the responsibilities and assignments of all members of the instructional team.	Conduct a series of interviews with inductees to determine progress in familiarization with his assignments and role.
Each inductee will participate in reviews of the outcomes of assignments and task allocations by the instructional team.	Study advantages of rotating responsibilities of experienced staff members for special needs and interests of inductees.
Each inductee will participate in instructional team discussion of alternative routes to more effective performance of tasks.	Interview experienced staff and inductees for attitudes toward assistance provided.
The professional staff will develop and recommend criteria for such special induction problems as: Reappointment of paraprofessionals. Successful completion of student teaching experiences (or internships). Successful completion of probationary teaching period. Requirements for permanent appointment. Requirements for promotion to team leader. Requirements for promotion to administrative and/or supervisory assignments.	Study records of instructional team plans, reassignments, reviews. Study time-task assignments, observations of performance and logs and diaries of inductees. Interview inductees, experienced staff members as to "best sources" of help for a variety of specific needs. Compare data. Frequency studies of assistance given; received; source; nature. Compare with data from other schools. Study of degree of familiarization of staff personnel with proposal criteria. Tentative recommendations made; studied; and revised. Revised guidelines field tested; data analyzed in terms of criteria. Recommendations made to: public school administrators; teacher association; college officials. Board policy statements. Teacher Association approval. College policy statements.

APPENDIX B

Illustrative Sources of Information About Individualized Instruction

Illustrative Sources of Information About Individualized Instruction

1. Center for the Advanced Study of Educational Administration (CASEA) and ERIC Clearing House on Educational Administration, University of Oregon, Eugene, Oregon 97403. Information on control of instructional policy, organizational implications of instructional change, strategies of instructional change.

2. Center for the Study of Educational Innovations, School of Education, University of Massachusetts, Amherst, Massachusetts 01002. Information concerning educational changes.

3. Center for the Study of Evaluation, University of California, Los Angeles, California, and The Instructional Objectives Exchange, Box 24095, Los Angeles, California, 90024. Information concerning specific educational objectives and banks of items for assessment of attainment of the objectives.

4. Center for the Study of Social Organization of Schools, The John Hopkins University, Baltimore, Maryland. Information concerning the use of simulation games in instruction for study of pupil attitudes.

5. ERIC Document Reproduction Service (EDRS). National Cash Register Co., 4936 Fairmont Ave., Bethesda, Maryland 20014. "Putting Research into Educational Practice (PREP)." National Study of individualized instruction Programs by Jack Edling of the Oregon State System of Education. Information on objectives; diagnostic, instructional, and evaluative procedures; pupil progress reports; bibliography, etc. PREP Kit: No. 16.

6. Far West Laboratory, 1 Garden Circle, Hotel Claremont, Berkley, California. The use of Microteaching and the Minicourse in the development of tutoring and teaching skills, independent pupil learning, small group instruction.

7. Harvard University, Graduate School of Education, Administrative Career Program. Roy E. Larsen Hall, Appian Way, Cambridge, Massachusetts, 02138. Information concerning flexible school organization and individualization of instruction.

8. Institute for Development of Educational Activities, Inc. (I/D/E/A) Suite 300, 5335 Far Hills Avenue, Dayton, Ohio 45429. Information and training materials for innovative school programs. Special materials available for training in Individually Guided Education (IGE), Nova Schools, etc.

9. Learning Research and Development Center of the University of Pittsburgh, Pittsburgh, Pa. and, Research for Better Schools, Inc., Philadelphia, Pennsylvania. Information concerning Individually Prescribed Instruction (IPI) in mathematics and other school subjects. Highly individualized curriculum materials.

10. Nova Schools, Fort Lauderdale, Florida. Information concerning individualized instruction, learning aptitude packages (LAPS), other innovative approaches.

11. School for Behavioral Studies in Education, the University of North Dakota, Grand Forks, North Dakota. Information on "open classroom" and teacher preparation programs oriented to this informal approach to instruction.

12. Westinghouse Learning Corporation, 100 Park Ave., New York, N.Y. 10017. "A Program for Learning in Accordance with Needs" (Project PLAN). Information concerning one approach to individualization of instruction through printed study guides or "Teacher Learning Units (TLU)." Assessment and redirection of pupil progress is facilitated through use of computers.

13. Wisconsin Research and Development Center for Cognitive Learning, University of Wisconsin, Madison, Wisconsin. Information about individually guided education (IGE), the multiunit schools, individualized curriculum materials in reading, motivation of learning.